

A polynomial is a function
of the form:

$$f(x) = a_n x^n + \dots + a_1 x^1 + a_0 x^0$$

eg $f(x) = 7x^3 + 14x^2 + \pi x - \frac{4}{3}$

$$a_3 = 7, \quad a_2 = 14, \quad a_1 = \pi, \quad a_0 = -\frac{4}{3}$$

$$f(x) = -4.26 x^{15} - \frac{\pi}{4} x^2 + 120.8$$

$$a_{15} = -4.26, \quad a_{14} = 0 \dots 0 = a_3, \quad a_2 = -\frac{\pi}{4}$$

rational function s:

$$\frac{p(x)}{q(x)}, \quad p(x) \text{ and } q(x) \text{ polynomials.}$$

eg

$$\frac{3x^2 - 2x + 6}{128.3x^{15} - 16x^2 + \pi}$$

$f(x)$

$$a \quad f \quad (b(x - c)) \quad + \quad d$$

a scales vertically

b scales horizontally

c shifts left/right

d shifts up/down